

JAPANESE MEDICAL MATERIAL

S-312

SURON

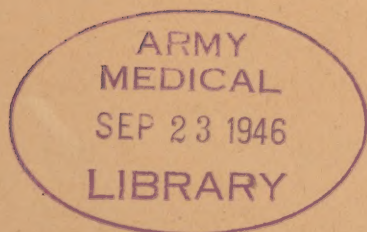
(Dihydrostilboestrol)

290823

Medical No. 221

15 May 1946

MEDICAL ANALYSIS SECTION
5250th Technical Intelligence Company
APO 500



15 May 1946

SURON

(Dihydrostilboestrol)

SOURCE: Tokyo, Japan.

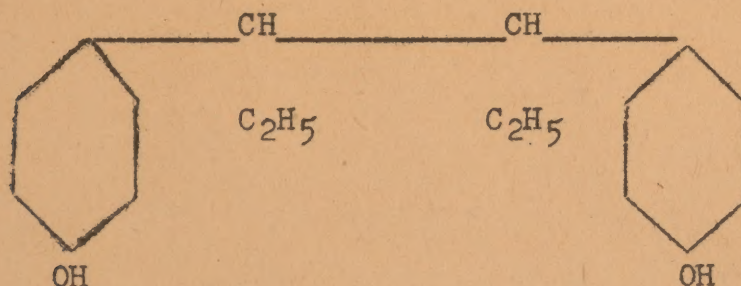
IMPORTANCE: Not previously reported. A synthetic organic congener of stilbestrol possessing estrogenic properties. No identical product is listed in standard available American references.

DESCRIPTION:

Ampoules: A slightly viscous amber liquid of 0.5 cc in a clear ampoule. Ten of these ampoules are enclosed in a cardboard container.

Tablets: A small white tablet 0.05 gram packaged 100 in a clear glass bottle.

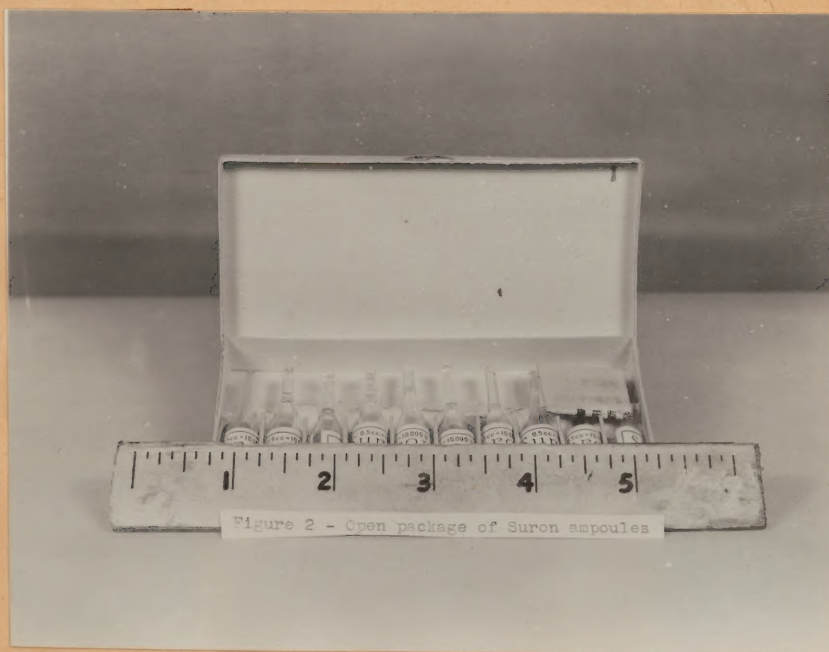
SUMMARY OF GENERAL INFORMATION: Suron is a synthetic estrogen, 4, 4' - dioxy , - diphenyl-n-hexane (dihydrostilboestrol), with the following chemical structure:

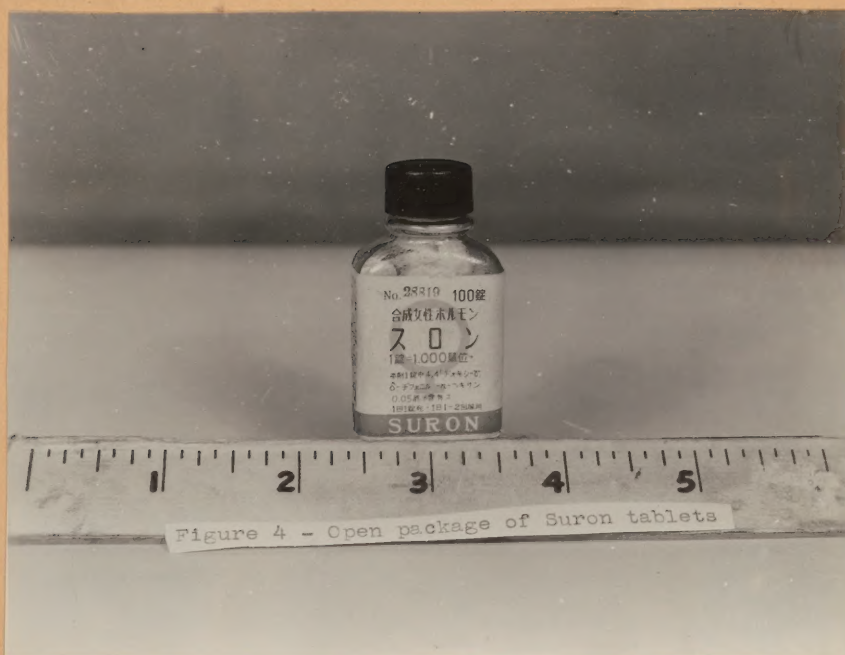
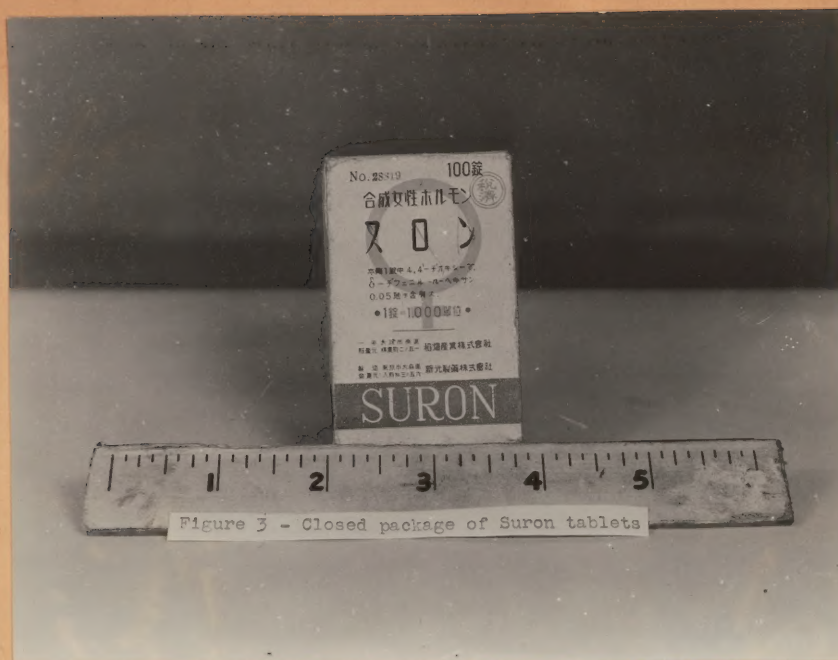


A translation of the literature enclosed with Suron is part of this report and describes its chemistry, physiological reaction, indications, dosage, packaging and manufacturer.

Comment is inadvisable until an exhaustive search of the literature is made in the United States of America. In view of the extensive research that has been recently conducted on synthetic estrogens, it is highly probable that this compound has already been thoroughly investigated.

PHOTOGRAPHS: Figure 1 - Closed package of Suron ampoules.
Figure 2 - Open package of Suron ampoules.
Figure 3 - Closed package of Suron tablets.
Figure 4 - Open package of Suron tablets.
Figure 5 - Literature.



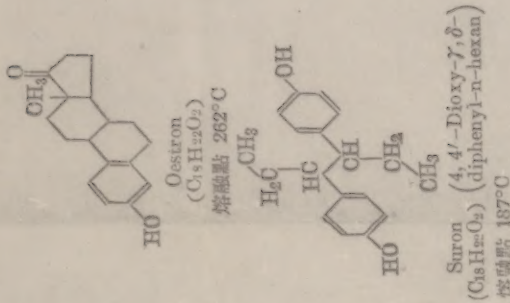


女性ホルモン スロン

“SURON,”

スロンは帝國社藥器藥研究所に於て永年研究し創製せられたるものにして今回特許に厚生省より認可を得て同業の新光製藥株式會社に於て製造發賣するに至りたるものなり。

スロンは合成發情物質 4,4'-Dioxy-γ,δ-diphenyl-n-hexan-3-ol を主體とせる女性ホルモン製劑にして、其生理的作用は天然卵胞ホルモンのエストロン又はエストラヂオールに全く一致し、而も其構造亦左に示す如く天然ホルモンに極めて近似せるものである。



從來 Phenanthren 核を有する合成物質にして發情作用を有する物は多數發見せられしも、 Δ^4 -Cook、及び Δ^4 -Dooch 等は Phenanthren 核は必ずしも發情作用に關係なき事を發見し更に研究を進めて多環狀骨格を有せざる化合物にして強力なる發情作用を有する物質を發見した。即ち Δ^4 -Silber 及び Δ^4 -Silber 糖質體の特定物質中に強力なる發情作用を有するものを發見して一九三八年其合成法と化學構造を發表した。同時に廣く臨床にも使用せらるに至つた。然るに英國最捷に依つて最初市販に提供せられた Δ^4 -Dioxy- γ,δ -diphenyl-n-hexan-3-ol 即ち Dooch 等の Δ^4 -Dioxy- γ,δ -diphenyl-n-hexan-3-ol の生理的作用はエストロンと略々同一にして、而も Δ^4 -Silber に見る如き副作用を有せざる事が證明されて居る。

然るにスロン (Δ^4 -Dooch 等の Hexoestrol) 即ち Δ^4 -Dioxy- γ,δ -diphenyl-n-hexan-3-ol の生理的作用はエストロンと略々同一にして、而も Δ^4 -Silber に見る如き副作用を有せざる事が證明されて居る。

【化學的性質】

スロンは化學的組成 $C_{18}H_{22}O_2$ 、熔點 187°C、無色針狀の結晶にして水に不溶、メタノール、酒精に可溶、エーテル、アセトン、クロロホルム等に易溶、耐熱性である。

【生物學的作用】

去勢又は幼若雌性動物の性腺を肥大し其結膜に定型的の増殖期像を生じ發情、性早熟を來す等の作用は天然女性ホルモンと全く同一である。

又此物の遠離作用も略々天然ホルモンと同一である。

スロンは鼠に於ける Δ^4 -Dooch テストに依ればエストロンより二二三倍強い。即ち其効果はエストラヂオールと略々同一である。然し稍々大量を使用する場合には其效力は著しく若弱性である事が知られて居る。

又此物の特長は經口的に甚だ有効にして一定量を内服せる場合同一分量を注射せる場合と略々同一の效力が證明されて居る。

【適應症】

スロンは婦人科、内科、皮膚科等の専門醫に依り既に其領域の總ゆる疾患に應用され顯著なる効果が證明されて居る。

即ち

【婦人科】

卵巣機能不全に基く凡ゆる經期的現象、例へば子宮發育不全、無月經、月經寡少、月經困難、子宮内膜炎、陰部炎症、陰萎、老人性膣炎、不妊症不感症等。

【内科】

更年期障礙症、月經閉止期性關節痛、慢性關節炎、婦人產後症及び神經衰弱、末梢動脈循環障礙、冠狀動脈循環障礙、甲狀腺機能亢進症。

【皮膚科】

手掌又は足趾角化症、尋常性皮膚炎及び結節性紅斑症、老人性皮膚發疹症、局所性血行障礙に基く疾病。

【獸醫科】

本劑は獨り人體のみならず近來廣く獸醫科領域に應用せられて人體に於るが如き効果が證明せられて居る。

【用法及び用量】

障礙の高度なる場合には毎日一〇、〇〇〇單位を内服又は注射として使用し七一一〇回を一クールとなし得。三―五日の間隔を置き効果が現る迄反復使用する。

症狀の輕度なる者は一日一回―二回、一錠又は一瓦瓦の内服を適用す。

【包裝】

- 注射用 〇・五瓦瓦 五瓊の結晶を含有す (1,000單位)
- 五管入 一〇管入 五〇管入
- 注意 冬期に於ては融凍程度に逼めて使用せられなし。
- 内服用錠劑 一錠 〇・五瓊の結晶を含有す (1,000單位)
- 三〇錠入 一〇〇錠入 五〇〇錠入
- 内服用粉末 一瓦瓦 〇・五瓊の結晶を含有す (1,000單位)
- 二五瓦瓦 一〇〇瓦瓦

大阪市南區順慶町二丁目

一手販賣元 稻畑産業株式會社

電話 總機 (6) 五五六六 五五五五

東京都大森區入新井三丁目五六番地

製造發賣元 新光製藥株式會社

電話 大森 (6) 三八〇八

Figure 5 - Suron literature

Translation of the Accompanying Literature

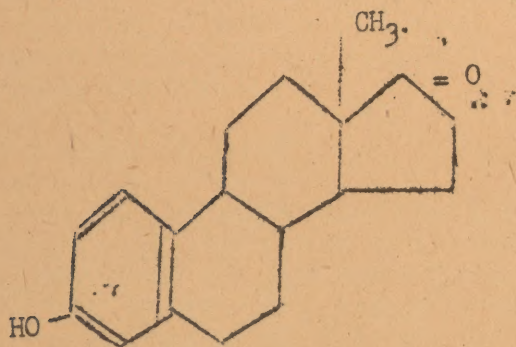
SURON

Feminine Hormone Compound

Discovered by the Organic Medicine Research Laboratory of "Teikoku-sha".

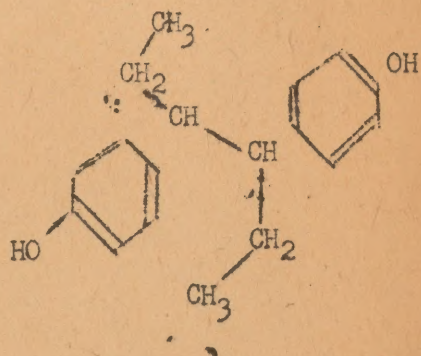
Suron is a medicine which was developed after many years of research. It was placed on sale at the Shinko Drug Co. with special permission of the Ministry of Welfare.

Suron is a female hormone, composed principally of 4, 4' - dioxy , - diphenyl-n-hexane. Its physiological action is the same as estrone or estradiol, which are components of naturally occurring hormones. Comparison of estrone and suron hormones is as follows:



Oestrone
(C₁₈H₂₂O₂)

(Melting Point - 262° C)



Suron (C₁₈H₂₂O₂)

Melting Point - 187 C

(4, 4' - dioxy , -
diphenyl - n - hexane)

Although many substances with the phenanthrene nucleus were observed to produce sexual excitement, J. M. Cook, F. C. Dodds, and others discovered that there is not always a relationship between this nucleus and sexual excitement. Further study showed that compounds without multiple nuclei may also be excitants. That is, they found substances, derivatives of Stilbene and Tolane, were excitants and announced their compositions and formulas in 1938. These were amply tested in clinics.

English students at first believed that diethylstilbestrol and estrone were identical in physiological action and clinical effect. However, secondary reactions were noted when treating a patient with diethylstilbestrol and censures resulted.

Suron (Hexoestrol of Dodds and others) or 4, 4'-dioxo diphenyl-n-hexane does not have these secondary effects. Its physiological action is almost identical with estrone.

CHEMISTRY:

Chemically, Suron consists of $C_{18}H_{22}O_2$. It is a colorless pin-like crystal, melting at $187^{\circ}C$. It is insoluble in water, soluble in methanol and ethanol, easily soluble in ether, acetone, chloroform etc. and is stable when heated.

PHYSIOLOGICAL ACTION:

Suron acts identically with naturally occurring hormones, to cause proliferation of the endometrium in castrated or immature female animals. According to the Allen Doisy test using rats, it has two or three times the activity of estrone and is nearly equal to the activity of estradiol. If more than the required amount is taken, the effective period is lengthened considerably. It has been proven that the effect resulting from the oral use of this medicine is almost equal to its effect obtained by injection.

INDICATIONS:

The excellent results of Suron in gynecology, internal medicine, and dermatology have been certified by doctors.

Gynecological uses: In imperfection of the ovary or the uterus, morbid suppression of the menses, amenorrhea, dysmenorrhea, endometritis, itching pudenda, impotence, senile vaginitis, sterility, insensivity etc.

In internal medicine: Troubles and diseases of the sexual periods, menopause arthritis, chronic arthritis, asthenia and neurasthenia of women, blood circulation in the extremities, coronary circulatory difficulties and irritation of the thyroid gland

In dermatology: In keratosis of palm, leg swellings, aches, nodular erythema, senile skin itching, diseases which are results of poor local circulation.

Veterinary: Widely used in veterinary work.

USE AND DOSE:

In severe cases give 10,000 units daily orally or by injection for 7-10 days. A three to five day rest period must follow. Normal cases will require one or two tablets (1-2 gram of powder) daily.

PACKAGING:

Ampoules

Boxes of 5, 10 and 50 ampoules of 0.5 cc (10,000 units) (0.5 cc = 0.5 mg crystals)

Note: In winter, warm solution to body temperature.

Tablets

Bottle of 30, 100 and 500 tablets containing 0.05 mg or 1,000 units per tablet.

Powder

Bottle of 25 and 100 gram crystals
1 gram = 0.05 mg or 1,000 units.

STORE:

Inahata Production Co. Ltd.
2 Chome, Jankei-cho, Minami-Ku, Osaka
Telephone: Semba (25) 6055-59

ORIGINAL FACTORY AND STORE:

Shinko Drugs Co. Ltd.
56, 3 Chome Iriarai, Omori-Ku
Tokyo, Japan
Telephone Omori (06) 3808